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K243.8636-45

15 JAN 1960

RETURN TO
Historical Research Division
ASI/HOA
Maxwell AFB, AL 36112

SPACE [illegible]

DEVELOPMENT [illegible]

EXEMPTED FROM 25 MAR 1996
DECLASSIFICATION IAW EO 12958
REVIEW DATE________ REVIEWER 61
REFER TO ________________
EXEMPTION (S): 1 2 3 [✓ 4] 5 6 7 8 9

SAMOS DEVELOPMENT [illegible]

HEADQUARTERS [illegible]
AIR FORCE [illegible]
AIR RESEARCH [illegible]

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MICROFILMED BY AUD

30 OCT 1989 [redacted] ~~CONFIDENTIAL~~

Change Number 1 - 15 March 1960 - Samos D/O

Old Page Number		New Page Number
	GENERAL SECTION	
I-1		I-1
	SECTION VI - FUNDING	
VI-1		VI-1
VI-2		VI-2
	SECTION VII - FACILITIES	
VII-5		VII-5
VII-6		VII-6
VII-17		VII-17
VII-18		VII-18

REVIEW ON 31 Dec 2010

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1. All pages replaced or deleted should be destroyed in accordance with AFR 205-1.

[illegible] BY [illegible]

[illegible] the
[illegible] correspondence
[illegible] UNCL
[illegible] 205-1

DOWNGRADED AT 12 YEAR INTERVALS; NOT AUTOMATICALLY DECLASSIFIED. DOD DIR 5200.10

[redacted] ~~CONFIDENTIAL~~

15 March 1960

RECORD OF CHANGES

SAMOS DEVELOPMENT/OPERATIONAL PLAN

Change No.	Description of Change	Date Entered	Entered By
1	Funding and Facility Sections	11 July 1960	Im.

[redacted]

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K243.8636-45
15 Jan 1960

DEVELOPMENT/OPERATIONS
TRANSITION PLAN
FOR THE SAMOS PROGRAM

15 January 1960

B. A. Schriever
Lt. General, USAF
Commander

WDLPR-251

[redacted]

~~CONFIDENTIAL~~

HEADQUARTERS

AIR FORCE BALLISTIC MISSILE DIVISION (ARDC)

FOREWORD

15 January 1960

This supplement to the SAMOS Development Plan presents the development/operational concept for the SAMOS reconnaissance system and the plan for obtaining an operational configuration. It presents the over-all plan for organization, operations and logistics, and describes the method of exploitation of intelligence data derived from the system during both the R&D and operational phases.

Revisions and/or amendments will be made to this document as required. In these instances, all recipients will be furnished copies of appropriate changes.

O. J. RITLAND
Major General, USAF
Commander

INDEX

I - GENERAL
  - A. Introduction
  - B. Mission
  - C. System Description
  - D. Command Responsibilities

II - Intelligence Requirements

III - ORGANIZATION AND TRAINING
  - A. Organization
  - B. Training

IV - LOGISTICS

V - SCHEDULES

VI - FUNDING

VII - FACILITIES

I. GENERAL

A. INTRODUCTION

1. The SAMOS weapon system is being developed to provide a space reconnaissance and data processing system which will permit the collection, processing and dissemination of visual and electronic reconnaissance data of the entire world surface mass, on a recurring basis.

2. This plan describes the method for exploitation of the intelligence data collected during the R&D program, and the incorporation of military personnel into the weapon system to provide for the ultimate operational capability. The projected operationally ready date is mid 1963.

3. Subsequent to the system transfer date, it is mutually agreed that ARDC will be given free access to all SAMOS facilities as may be required for purposes of installation, checkout, field testing and continued R&D elements of the system that may remain to be integrated into the over-all system. This access will recognize the need for AFBMD contractors to continue their normal on-site tasks in support of the R&D program under the direction of AFBMD.

4. The three phase development of the system recognizes the stated requirement to provide an operational system at the earliest possible date. To do so, requires incremental additions to the basic R&D configuration which will permit a logical and fundamentally sound improvement in system reliability and capability. These additions consider the lead times incident to the design and development of facilities and equipment necessary to the ultimate system design. The development operations additions are to be funded in FY 60-61 and provide the necessary preliminary work for:

   a. Personnel subsystem development efforts in human engineering, manuals and QPRI to support operational development.

   b. Engineering design and modification of equipment and facilities to support the expanded system launch, control and processing capability. These efforts will also have application to the MIDAS system.

5. The FY 1962 and 1963 additions will provide the final operational configuration and system exploitation capability in consonance with the developmental progress to that time. These additions will provide:

   a. 576A launch complex and MAB

   b. T/A stations at Ottumwa and Ft Stevens

   c. SOC/DPF at Offutt AFB

3. Intelligence derived from SAMOS will be disseminated in flash, operations immediate, or detailed reports, in accordance with its bearing on the national intelligence objectives. Priority will be as follows:

a. Priority 1 - Warning of attack

b. Priority 2 - Warning of possible preparation for attack

c. Priority 3 - Strike target intelligence

d. Priority 4 - Penetration of air defenses

C. SYSTEM DESCRIPTION

1. A modified ATLAS booster will provide the initial propulsive power to the SAMOS satellite vehicle. Separation will occur on attaining the proper velocity, altitude and attitude. As the booster falls away, the payload bearing space vehicle will continue in a self-stabilized predetermined coast to a programmed altitude. At the termination of the coast phase, time to fire computations or internal programming will activate the satellite vehicle's internal power plant to attain proper orbital velocity. Internal controls will stabilize the vehicle in the proper attitude. The vehicle will be programmed to activate and deactivate sensing equipment in various target areas in accordance with programs directed by tracking and acquisition ground stations as computed by the SOC to meet intelligence requirements. The satellite vehicle orbital period will be approximately 90 minutes. The vehicle will continue around the earth and when within range of a ground receiving station, and upon receipt of a coded signal, satellite vehicle readout sensory equipment will transmit the recorded data. This data will be relayed to the Data Processing Facility, where it will be processed by the data processing squadron and then transmitted to using agencies. In case of a recovery payload, the vehicle will receive re-entry commands from a designated instrumentation station. After air or surface pick-up, the payload will be couriered to the DPF for processing. Expected useful life for early versions of both systems is one to three months.

2. The two methods of data collection will be:

a. Readout Program:

(1) Visual Reconnaissance (Subsystem "E"). The reconnaissance equipment for the visual reconnaissance readout portion of the SAMOS progeam consists of the satellite-borne equipment required to collect information in the visible spectrum, to process and store this information, and on a command signal from the ground to convert stored images to appropriate signals for transmission to the ground. In addition to the satellite-borne equipment, related ground-based equipment will be required to take the output of the satellite-borne data link and reconstitute the signal into photographic form for system control purposes, vehicle equipment adjustment, engineering

[redacted]

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(2) Recovery Operation

(a) Recovery operation will be accomplished through an aerial recovery system employing C-119 and RC-121 aircraft with a Navy seaborne unit for back-up purposes. The recovery area is approximately 1350 NM in range and 700 NM in crossrange. Within this area there are sub areas as small as 225 NM by 70 NM.

(b) The payload re-entry capsule is intercepted by a C-119 at 14,000 feet (recovery can be effected as low as 1000 feet). If the C-119(s) are unable to engage the payload parachute with its grappling hooks, and the capsule impacts in the water, recovery will then be effected by ships of the surface force.

(c) The capsule detection devices are as follows:

1 Chaff-1 pound yielding an 1800 square foot radar cross section

2 Silvered parachute-radar reflective

3 Flashing lights-operate at 1.5 second intervals for approximately 10 hours

4 Recovery beacon-640 milliwatt output

5 Fluorescent dye as sea marker

c. Control

(1) Satellite Test Center, Sunnyvale, California: The STC will exercise over-all control of the R&D SAMOS flight test operations. It will serve as the focal point of all systems status data preceding and during R&D test operations. It will be the [redacted] of the command and communications network, and will be responsible for launch commands, satellite adjustment commands, mission control and quality control.

(2) Space Operations Control (SOC), Offutt AFB, Nebraska

System control for the operational program will emanate from this facility. Functions within this facility include operations scheduling and analysis, launch control, satellite vehicle adjustment commands to T/A sites, quality control monitoring, and satellite vehicle mission control. Launch and satellite technical command and control requirements for MIDAS will emanate from within the MOC to the SOC.

d. Data Handling:

(1) The Data Processing Facility (DPF) Offutt Air Force Base, Nebraska: The DPF will be responsible for processing all useable

[redacted]

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f. Launch:

(1) Launch Complex #1, Pt Arguello: The SAMOS R&D launch complex will consist of 2 launch stands, a control blockhouse and missile assembly building. (The MAB will be located at VAFB). Although intended primarily as an R&D facility, these facilities will support other programs as required.

(2) 576A Launch Complex, VAFB: This three-stand ATLAS launch complex located on VAFB will be modified to support SAMOS vehicle launchings for the operational program; R&D launchings will be supported to the maximum extent required and supportable. In addition a supporting MAB will be released with the complex.

D. COMMAND RESPONSIBILITIES:

1. Hq USAF:

Hq USAF will establish the relative priority of intelligence requirements on a continuous basis and furnish these to the Commander, SAC, in the form of specific SAMOS intelligence reconnaissance requirements.

2. Air Research and Development Command (ARDC): ARDC will exercise command jurisdiction of all SAMOS field organizations and will prepare plans and directives necessary for the achievement of an operational capability in consonance with stated USAF requirements. When the system has proved its operational design capabilities command jurisdiction will be transferred to SAC.

3. Strategic Air Command (SAC):

a. SAC will be the ultimate user and operator of the SAMOS weapon system

b. SAC will provide ARDC advice and assistance on intelligence collection and processing matters, as required, during the development of the SAMOS operational capability.

c. SAC will participate in the planning activities and formulation of those aspects of the system appropriate to operational employment.

4. Air Materiel Command (AMC): AMC will assure support responsibilities for the SAMOS operational program and will prepare the necessary logistics plans.

5. Air Training Command (ATC):

a. ATC, in coordination with AFBMD, will develop and publish personnel training concepts in support of the system.

b. ATC will provide training, as required, based on the time-phased, quantitative and qualitative requirements submitted by AFBMD.

II. INTELLIGENCE REQUIREMENTS

1. All reconnaissance data collected during the R&D phase, the development operations phase, or the operational phase will be handled only by Air Force personnel. Flight data required by the contractor for R&D purposes will be provided by the Air Force after it has been reviewed and sanitized. The data will be considered as useful raw information, beginning with the first instrumented R&D flights, as well as the operational follow-on flights. This material will be processed by Air Force personnel and placed, as soon as possible, into intelligence channels for further exploitation. The processing and utilization of the data will be achieved generally, in three separate but related phases. These are:

a. Phase I. Processing and exploitation during this phase will provide, on a timely basis, initial or critical information required for intelligence activities and as directed by ACS/I. In addition, orbital information will be furnished the DPF, so that payload data can be related accurately to the actual geographic location of the vehicle during its orbit.

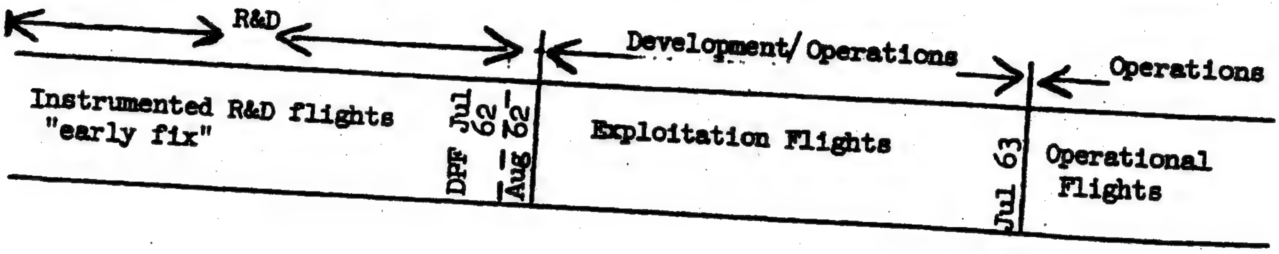
b. Phase II. Second phase processing and exploitation will produce intelligence for support of a quick reaction capability. The out-puts of Phase I processing, in the form of initial intelligence information and select source material, will be integrated with other collateral material, and the SAMOS derived data will lose its identity in the over-all intelligence product. Items such as national intelligence estimates, ELINT order of battle, missile order of battle, and air order of battle, will be produced and disseminated. Phase II exploitation will be accomplished by intelligence producing agencies other than the SAMOS Intelligence Processing Center. The DPF will function as an additional source of basic intelligence information.

c. Phase III. Third phase processing and exploitation will expand the data and material produced during phases I and II. The third phase will include: (1) Production of studies resulting from detailed search, analysis and evaluation of all source material; (2) graphics, such as topographic maps, geodetic data sheets, air navigation and target materials.

d. The three incremental program development to operational phases described earlier are:

(1) Minimum R&D
(2) Development/Operations
(3) Operations

These are graphically illustrated, with their application to intelligence processing and handling as follows:



(2) To the Strategic Air Command, during the "early fix" operation, standard formats of the reassembled record.

(3) To the Strategic Air Command, following the "early fix" operation, and as fast as the capability can be developed, copies of the daily take in required formats. Photo outputs will be titled using geodetic control points, if feasible. Reports will be rendered as directed by the D/I SAC.

(d) D/I, Hq SAC will receive, process and disseminate the photo material as directed by the ACS/I, Hq USAF.

(e) ACS/I, Hq USAF, will provide the D/I, Hq SAC, with the standing requirements for the dissemination of processed intelligence to include, but not be limited to, classification, format, reports required, list of recipients and quantities.

(4) Subsystem "F" (ELINT): The following responsibilities and functions pertain to the flow and processing of the reconnaissance system data resulting from the ferret payload:

a. The instrumentation Squadrons (T/A stations), will provide tracking, telemetry, calibration, attitude and raw elint reconnaissance data to the STC/SOC.

b. The STC/SOC will provide raw elint data, orbital navitation data, calibration tables, including confidence tags and attitude data to the DP at Offutt Air Force Base.

c. During the early fix operation, the DPF at Offutt Air Force Base will provide engineering feedback to the STC and the following ELINT outputs to the Strategic Air Command:

(1) Frequency by area presentation of intercept data

(2) Resolved and emitter fix locations (non dense areas).

(3) Information on unusual signals. These outputs will be provided on hard copy printouts, IBM 727 tape and/or punched cards, as required.

B. Exploitation Program (August 1962 - July 1963)

1. Electronic Readout:

All of the functions noted in paragraph E3 will continue to be performed in this period, however, those functions noted for accomplishment at the STC in Palo Alto will be performed entirely by the Space Operations Control at Offutt Air Force Base. The STC and the DSL will be required to continue in an R&D role to provide advanced control and data processing equipment and techniques, and the incorporation of such techniques and equipment into the operating system, as required to fulfill over-all objectives.

a. F-2 - August 1962

b. E-2 - February 1963

c. E-5 - December 1962

IV. LOGISTICS

A. GENERAL

1. Logistic support of the operational phase of the SAMOS space program will be in accordance with the logistic plan developed by the AMC.

2. Logistic support of the R&D phase of the SAMOS space program will be managed by AFBMD (ARDC).

3. Logistic support of the Development/Operations Phase of the SAMOS space program will be the joint responsibility of AFBMD and AMC. AFBMD will have the responsibility while equipment is in an R&D status, with AMC assuming support responsibility on a phased basis as equipment is declared to be operationally configured.

4. Logistic support of the operational phase of the SAMOS space program will be managed by the AMC. SMAMA has been designated by Hq AMC to accomplish the AMC responsibilties in this area.

5. Common and standard item support of the R&D and Test Programs will be provided by AMC based on requirements established by AFBMD.

6. Operational program organic logistics support at all levels will be the objective, in consonance with Hq USAF material guidance documents.

7. Logistic support for the operational program will be contracted only for those workloads for which Air Force organic capability has not yet been developed.

8. Logistic support for the operational program will be based on the following concepts:

    a. Management by Weapon System

    b. Fast, accurate communication

    c. Automatic Data Processing

    d. Appropriate responsive transportation

    e. Air Force organic maintenance support

    f. Source to user supply

    g. Slow build-up of peculiar item inventory

    h. Minimum inventory stock levels

    i. Minimum pipeline times

j. Supply support by EDPS

k. Automatic resupply of storage sites

l. Selected item management (Hi-value, Low-value, Kit concept)

m. Centralized control of both depot and organizational stocks.

n. Minimum administration at user level.

[redacted]

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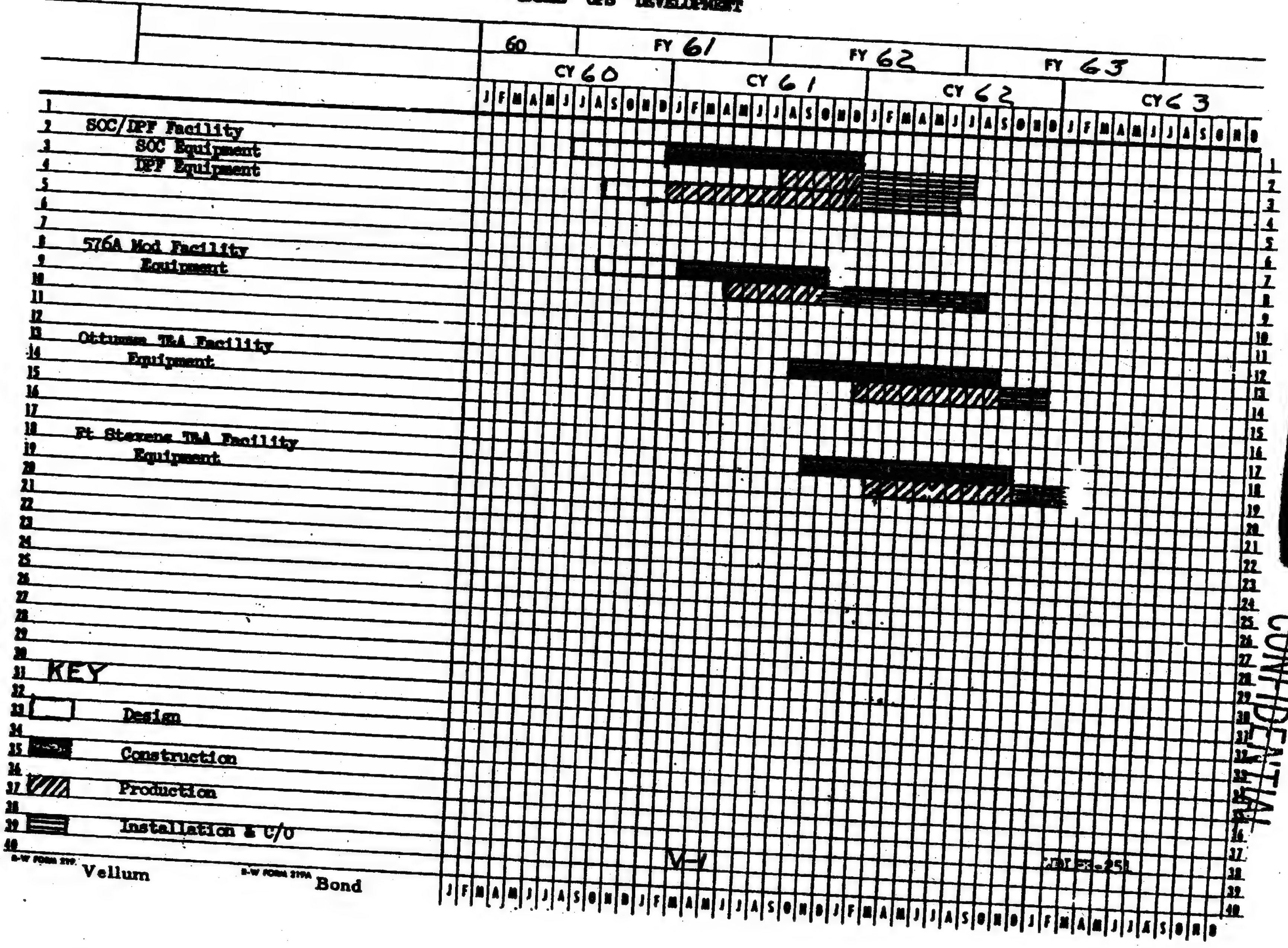
PROGRAM SCHEDULE

SAMOS OPS DEVELOPMENT



V-1

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PROGRAM SCHEDULE

SAMOS DEVELOPMENT OPERATIONS LAUNCH SCHEDULE

PAYLOAD

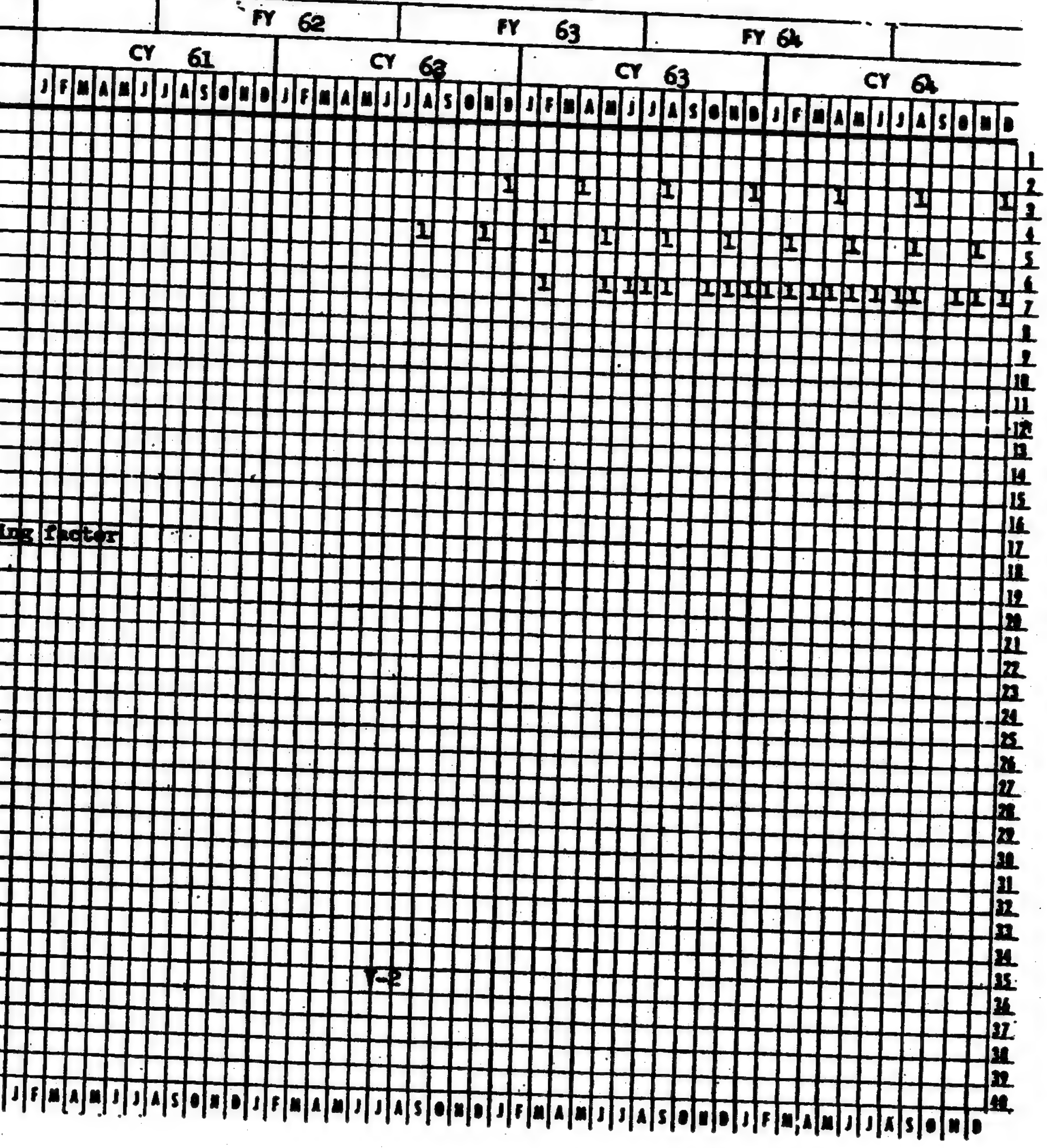
E5

F2

E2

Launch sequence based on :
E5- one every fourth month
F2- one every third month
E2- one a month as possible

Launch stand availability is a limiting factor



S-W FORM 219 Vellum

S-W FORM 219A Bond

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SAMO

PRELIMINARY SUMMARY OF FUNDS REQUIRED (In Millions)

	PRIOR	FY 60	[redacted]	[redacted]	[redacted]
Facilities					
576A			[redacted]		
Space Operations Control/Data Processing Facilities	.9		[redacted]		
Ottumwa T/A				[redacted]	
Ft Stevens T/A				[redacted]	
Facilities Design		.8			
Facilities Total	.9	.8	[redacted]	[redacted]	
System Equipping					
576A Equip Design and Production Engr		2.6			
576A Equipment Procurement			[redacted]	[redacted]	[redacted]
SOC Equip Design & Production Engr		.8			
SOC Equipment Procurement			[redacted]	[redacted]	[redacted]
DPF Equip Design & Production Engr		2.2			
DPF Equipment Procurement			[redacted]	[redacted]	[redacted]
Alaska Addition Equipment				[redacted]	[redacted]
Ottumwa Equipment Procurement				[redacted]	[redacted]
Ft Stevens Equipment Procurement				[redacted]	[redacted]
Boosters, Agenas, Payloads					
Equipment Sub-totals carried to V1-2		5.6	[redacted]	[redacted]	[redacted]

1002

(Revised 24 Feb 60)

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WDLPR-251
(Change No. 1, 15 Mar 60)

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		FY 60	FY 61	FY 62	FY 63
carried forward - - - - -		5.6	[redacted]	[redacted]	[redacted]
Personnel Subsystem Development					
Human Engineering - - - -		.2	[redacted]	[redacted]	[redacted]
QPRI - - - - - - - - - - -		.1	[redacted]	[redacted]	
Manuals - - - - - - - - - - -		1.0	[redacted]		[redacted]
Logistic Support - - - - - - - - - - -		.8		[redacted]	[redacted]
Training Parts - - - - - - - - - -		___			
Equipping totals	___	7.7	[redacted]	[redacted]	[redacted]
Grand Total	.900	8.5			

WDLPR-251
(Change No. 1, 15 Mar 60)

(Revised 24 Feb 60)

~~CONFIDENTIAL~~ [redacted]

FACILITIES

A. GENERAL:

1. This section contains the consolidated facility requirements for SAMOS operational program which must be included in the FY 1960, 1961 and 1962 Military Construction Program to insure their availability on a schedule compatible with the other phases of the total system effort. Facilities shown herein are required to support the following functions of the program: booster and vehicle assembly and checkout; launch; guidance; satellite tracking; control and telemetry; data reception, interpretation and dissemination.

2. Boosters, vehicles and payloads will be reassembled, checked out and maintained in the Missile Assembly Facilities at Vandenberg AFB. During the 1960-62 time period Assembly Facilities programmed for SAMOS R&D will satisfy both the R&D and development operational launches. As the combined R&D and development operational launch requirements increase in late 1962, additional facilities will be made available by modification and extension of the ATLAS 576A Missile Assembly Building.

3. During the 1960-62 time period launch facilities programmed for SAMOS R&D at Point Arguello will satisfy most of the R&D and development operational launches. As the combined R&D and development operational launch requirements increase in late 1962 additional launch facilities will be made available by modification of the ATLAS 576A complex at Vandenberg AFB.

4. Tracking and Data Acquisition Stations located at Vandenberg AFB; Kaena Point, Hawaii; New Boston, New Hampshire; Ottumwa, Iowa; and Fort Stevens, Oregon have been planned for the SAMOS R&D and operational programs.

5. A Space Operations Control and Data Processing Facility will be provided at Offutt AFB by August 1962 to serve as a command, administrative and control center and intelligence data processing center for the SAMOS operational program. An interim data processing facility will be provided at Offutt AFB to process the intelligence data available from the early SAMOS shots.

6. Technical facilities have been sited so as to take advantage of, to the maximum extent possible, support available at existing military bases. Industrial Facilities (P-151) are not included in this section.

7. Planning and design costs to be incurred by the Corps of Engineers and Bureau of Yards and Docks for the projects in this Development Plan are not included. Advance planning funds required for planning and design costs incurred directly by AFBMD for the items in this section are included.

B. DEFINITIONS of MCP actions associatedwith this section are as follows:

1. Design Start Date: The date upon which the design agent commences preliminary design. Implicit in this date is the understanding that approval of the project will have been received, design funds will have been made available, an Architect-Engineer will have been selected and design guidance furnished him by the Air Force or its agent.

2. Design Completion Date: The date upon which the Air Force receives final drawings and specifications from the Architect-Engineer for review and approval. It also indicates that, prior to the date shown, preliminary drawings and specifications will have been submitted, reviewed and approved and a control estimate provided.

3. Construction Contract Award: The award to the contractor, made after approval of final drawings and specifications and receipt of funds. Dates shown assume issuance of Notice to Proceed at same time as award.

4. Construction BOD (Beneficial Occupancy Date): The date when buildings and/or other construction will be completed to a point that will permit occupancy by the using agency for the purpose of installation of unit equipment, special and/or fixed equipment that is not included as construction contractor-installed property.

C. INDEX IDENTIFICATION SYSTEM numbers are included to furnish a uniform code and reference system for each item in the plan. The Index Identification System is made up as follows:

[redacted] ~~CONFIDENTIAL~~

BMD INDEX IDENTIFICATION SYSTEM

Part I Base or Location

1. Edwards AFB
2. Holloman AFB
3. Patrick AFB
4. Vandenberg AFB
5. ATLAS OPNL Bases
   - 5A. Warren I & II
   - 5B. Offutt AFB
   - 5C. Fairchild AFB
   - 5D. Forbes AFB
   - 5E. Schilling AFB
   - 5F. Lincoln AFB
   - 5G. Warren III
   - 5H. 10th Squadron
   - 5I. 11th Squadron
   - 5J. 12th Squadron
   - 5K. 13th Squadron
6. TITAN OPNL Bases
   - 6A. Lowry AFB
   - 6B. Ellsworth AFB
   - 6C. Mt. Home AFB
   - 6D. Larson AFB
   - 6E. Beale AFB
   - 6F. 7th Squadron
   - 6G. 8th Squadron
   - 6H. 9th Squadron
   - 6I. 10th Squadron
   - 6J. 11th Squadron
   - 6K. 12th Squadron
   - 6L. 13th Squadron
   - 6M. 14th Squadron
7. MINUTEMAN OPNL Locations
8. SPACE SYSTEMS Locations
   - (1. Edwards - As listed above)
   - (2. Holloman - As listed above)
   - (3. Patrick - As listed above)
   - (4. Vandenberg - As listed above)
   - 8A. Pt. Arguello, Calif.
   - 8B. New Boston, New Hampshire
   - 8C. Ottumwa, Iowa
   - 8D. Ft. Stevens, Oregon

Part I Base or Location - Contd

- 8F. Alaska
- 8G. Greenland
- 8H. United Kingdom
- 8I. Sunnyvale, Calif.
- 8J. Pt Mugu, Calif
- 8K. Africa
- 8L. Offutt AFB

Part II Item Functional Category

R&D & Space Systems Opns

1. Launch
2. Launch Support
3. Area Support/Missile Support
4. Range/Tracking/Telemetry/Control Ops
5. Captive Test
6. Special Test
7. Captive Test Support
8. Ground Based Communications

Training

1. Training Launch Facilities
2. Technical Training Facilities
3. Support

ICBM Operations

1. Launch
2. Launch Support
3. Guidance
4. Command and Communications
5. Support Center or Base
6. Missile Support

(Contd)

Sheet 1 of 2

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Part III Weapons Systems or Weapons System Phase

1. WS 107A-1
2. WS 107A-2
3. WS 315A
4. SAMOS & MIDAS

4A. Communications Satellite

4B.

4C.

5. Common Facility (2 or more WS or uses)
6. ICBM - IOC
7. IRBM - IOC
8. WS 133A

Part IV Line Item

Each line item listed under a Functional Category is numbered consecutively.

NOTE 1: The BMD Index Number consists of the four basic parts listed above, Parts I, II, III, and IV.

PART I defines the location or base. This is indicated by the first numerical digit and the alphabetical digit, if any, immediately following the first digit. As noted above, the ARDC centers and Vandenberg AFB are identified by the first numerical digit alone.

PART II defines the items functional category, i.e. R&D, Training, Support, etc. This is indicated by the second numerical digit of the number.

PART III defines the Weapon System. This is indicated by the third numerical digit and the alphabetical digit, if any, immediately following the third numeral. Certain systems are defined by the third numeral alone (ATLAS, TITAN, SAMOS, MIDAS and IRBM systems).

PART IV indicates the line-item sequence for each base, within each functional category.

Example : BMD Index Nr 8F4.4.A1
(8F) represents a Space System location in Alaska: the first (4) indicates the tracking function of the project; the (4.A) indicates the Communications Satellite System; the (1) indicates the first line item at that location for the specific system and function.

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FACILITIES SUMMARY

FOR

SAMOS OPRL

TYPE FUNDS: P-300

(FIGURES ARE IN MILLIONS OF $)

ITEM CATEGORY:		BUDGET ESTIMATE					
		PRIOR YRS	FY 60	FY 61	FY 62	FY 63	TOTAL
Launch	Vandenberg AFB			[redacted]	[redacted]	[redacted]	[redacted]
Missile Support	Vandenberg AFB			[redacted]	[redacted]	[redacted]	[redacted]
Tracking & Telemetry	Ottumwa, Iowa			[redacted]	[redacted]	[redacted]	[redacted]
Tracking & Telemetry	Fort Stevens, Oregon			[redacted]	[redacted]	[redacted]	[redacted]
Control	Offutt AFB	.900		[redacted]	[redacted]	[redacted]	[redacted]
Advance Project Planning			.800	[redacted]	[redacted]	[redacted]	[redacted]
		.900	.800	[redacted]	[redacted]	[redacted]	[redacted]

1002

WDLPR-251 (Change No. 1, 15 Mar 60)
VII-5

(Revised 24 Feb 60)

~~CONFIDENTIAL~~ [redacted]

Type Funds: P-300 MCP

BUDGET ESTIMATES

LOCATION (4) VANDENBERG AFB

	FY 60	FY 61	TOTAL
SAMOS		1.500	1.500

(Figures Are In Millions of $)

BMD Index Nr	ITEM DESCRIPTION	BUDGET ESTIMATE, FY					DESIGN		CONSTRUCTIC	
		PRIOR	FY 58	FY 59	FY 60	FY 61	START	COMP.	AWARD	BOI
41.4.1	Launch					1.500	11/60	03/61	04/61	11/61

LPR-251 (Change No. 1, 15 Mar 60)
II-6

~~CONFIDENTIAL~~ [redacted]
(When illed In)

LOCATION: (4) VANDENBERG AFB

ITEM CATEGORY: (1) LAUNCH (MOD)

DESCRIPTION AND UTILIZATION:

An existing ATLAS launch complex (576A) will be modified to provide for the erection, checkout, fueling and launching of an ATLAS booster and an AGENA second stage. Three launch stands, including service towers and propellant loading systems, will be modified. The blockhouse will be modified to provide for second stage checkout equipment and for additional communications equipment. A launch support building, approximately 6000 SF in floor area, including utilities, roads, and parking areas, will be provided.

The modification of Launch Complex 576A is required to provide an operational launch facility for the polar orbit requirements in the SAMOS program. This modification will provide an 83 degree retrograde orbital orientation launch capability.

[redacted]
(When Filled In)

~~CONFIDENTIAL~~

SAMOS

Type Funds: P-300 MCP

BUDGET ESTIMATES

LOCATION (4). VANDENBERG AFB

FY 60	FY 61	TOTAL
	2.100	2.100

(Figures Are In Millions of $)

BMD Index Nr	ITEM DESCRIPTION	BUDGET ESTIMATE, FY					DESIGN		CONSTRUCTION	
		PRIOR	FY 58	FY 59	FY 60	FY 61	START	COMP.	AWARD	BOD
43.4.5	Missile Support					2.100	[illegible]/60	03/61	04/61	10/61

~~CONFIDENTIAL~~

[redacted]
(When Filled In)

LOCATION: (4) VANDENBERG AFB ~~CONFIDENTIAL~~

ITEM CATEGORY: (3) MISSILE SUPPORT SAMOS

DESCRIPTION AND UTILIZATION:

An existing ATLAS G/M Assembly Building will be expanded to provide assembly and checkout, shop, components storage and administrative space for the AGENA vehicle. This addition will be approximately 70,000 SF in floor area. Additional electrical power, utilities, roads and parking areas will be provided.

This facility is required to support operational SAMOS launchings from the modified 576A launch complex.

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SAMOS

Type Funds: P-300 MCP

BUDGET ESTIMATES

LOCATION (8C) OTTUMWA, IOWA

FY 61	FY 62	TOTAL
	3.500	3.500

(Figures Are In Millions of $)

BMD Index Nr	ITEM DESCRIPTION	BUDGET ESTIMATE, FY					DESIGN		CONSTRUCTI	
		PRIOR	FY 59	FY 60	FY 61	FY 62	START	COMP.	AWARD	BO
8C4.4.1	Tracking & Telemetry Station					3.500	06/61	08/61	09/61	10/62

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LOCATION: (8c) OTTUMWA, IOWA

SAMOS

ITEM CATEGORY: (4) Tracking & Telemetry (Data Acquisition)

DESCRIPTION AND UTILIZATION:

This Station will be utilized in support of the SAMOS program. It will provide the following functions:

a. Intercept and track the vehicle;
b. Transmit vehicle program commands and time signals to the vehicle;
c. Receive, index, record and process telemetry data into its reassembled form;
d. Transmit telemetry data to the data analysis center;
e. Receive, process and record vehicle instrumentation and environmental data;
f. Exchange trajectory and vehicle data with other stations;
g. Receive general operational and command information from other stations and the data analysis center.

The station will be located on Ottumwa Naval Air Station (inactive). Existing buildings are available for utilization as support facilities. The station will consist of the following:

a. Vehicle Command Transmitter Building, approximately 1300 SF, with roof-mounted, 6 ft antenna, with radome;
b. Vehicle Command Transmitter Antenna, 6 ft diameter with radome, on concrete support structure;
c. Data Acquisition and Process Building, 35,000 SF;
d. (2) UHF Telemetry Antennas, 60 ft diameter, with radomes;
e. (2) UHF Telemetry Receiver Buildings, approximately 2100 SF each;
f. Angle Tracker Building, 1800 SF;
g. (2) Angle Tracker Antennas, 10 ft diameter, with radomes;
h. Security Control & Identification Building, 150 SF;
i. Security Fencing and Control Buildings;
j. (4) Boresight Towers; and,
k. Utilities, roads, and minor appurtenances.

All buildings will be of permanent type construction and will be air conditioned to maintain electronic equipment reliability.

(Continued on following page)

LOCATION: (8C) OTTUMWA, IOWA

SAMOS

(CONTINUED FROM PREVIOUS PAGE)

ITEM CATEGORY: (4) Tracking & Telemetry (Data Acquisition)

DESCRIPTION AND UTILIZATION:

This item also includes the rehabilitation of the minimum number of former Naval Air Station Buildings and facilities required to house the personnel, to provide facilities for non-technical administration and operations to provide for maintenance and operations of the base. The Facilities required to be rehabilitated consist of the following:

a. Bldgs 3,4&5 (Barracks)--Barracks for permanent party airmen and transient airmen.
b. Bldg 41 (BOQ)--Officers quarters for permanent party and transient officers. One wing to be utilized as a recreation area.
c. Bldg 42 (Dining Hall)--Kitchen and one wing to be utilized as a consolidated dining hall. One wing to be utilized as a NCO open mess.
d. Bldg 21 (Hangar)--Administrative activities of operational squadron. Hangar space for two (2) C47 type aircraft and necessary crew chief type maintenance. Administrative space and shops for Base Civil Engineer.
e. Bldg 36 (Base Hqs)--Support Squadron administration and dispensary.
f. Bldg 28 (Motor Vehicle Shop)--Motor Vehicle Shop.
g. Bldg 69 (Fire Station)--Fire Station.
h. Bldg 29 (Central Heating Plant)--Central Heating Plant.
i. Bldg 40 (Instrumentation Bldg)--Assembly Building and Theater (approx 250 seat); Chapel; B.X. Facilities including stove, office, storage, services and snack bar.
j. Bldg 67 & 68 (Family Quarters)--Family Quarters.
k. Bldg 51--Pump station.
l. Bldg 51A--Reservoir.
m. Bldg 58--Sewage plant.
n. Bldg 58A--Digestor.
o. Utilities.
p. Streets and sidewalks
q. Airfield Pavements.
r. Railroad spur.

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Type Funds: P-300 MCP

SAMOS

BUDGET ESTIMATES

LOCATION (8D) FT STEVENS OREGON

FY 61	FY 62	TOTAL
	3.500	3.500

(Figures Are In Millions of $)

BMD Index Nr	ITEM DESCRIPTION	BUDGET ESTIMATE, FY					DESIGN		CONSTRUCTIO	
		PRIOR	FY 59	FY 60	FY 61	FY 62	START	COMP.	AWARD	BOD
8D4.4.1	Tracking & Telemetry Station					3.500	07/61	09/61	10/61	11/62

~~CONFIDENTIAL~~

[redacted]

LOCATION: (8D) FORT STEVENS OREGON

SAMOS

ITEM CATEGORY: (4) Tracking & Telemetry (Data Acquisition)

DESCRIPTION AND UTILIZATION:

This station will be utilized in support of the SAMOS program. It will provide the following functions:

a. Intercept and track the vehicle;
b. Transmit vehicle program commands and time signals to the vehicle.
c. Receive, index, record and process telemetry data into its reassembled form;
d. Transmit telemetry data to the data analysis center;
e. Receive, process and record, vehicle instrumentation and environmental-data;
f. Exchange trajectory and vehicle data with other stations; and
g. Receive general operational and command information from other stations and the data analysis center.

The station will consist of the following:

a. Vehicle command transmitter bldg., approximately 1300 SF, with roof-mounted, 6 ft antenna, with radome;
b. Vehicle command transmitter antenna, 6 ft diameter with radome, on concrete support structure;
c. Data acquisition and processing building, 35,000 SF;
d. (2) UHF Telemetry antennas, 60 ft diameter, with radomes;
e. (2) UHF Telemetry receiver bldgs., approximately 2100 SF each;
f. Angle Tracker bldg., 1800 SF;
g. (2) Angle tracker antennas, 10 ft diameter, with radomes;
h. Security control & identification bldg., 150 SF
i. Security fencing and control bldgs;
j. Boresight Towers;
k. Combination building for technical supply and maintenance, vehicle storage, fire truck storage, building and grounds maintenance, approximately 8000 SF;
l. Dining Hall, 67 seats;
m. Utilities, roads and minor appurtenances.

All buildings will be of permanent type construction and will be air conditioned to maintain electronic equipment reliability. This item also includes the necessary support facilities including barracks, BOQ's, dining facilities, community facilities, non-technical administration, supply and maintenance facilities.

SAMOS

Type Funds: P-300 MCP

BUDGET ESTIMATES

LOCATION (8K) OFFUTT AFB

FY 60	FY 61	TOTAL
	2.500	2.500

(Figures Are In Millions of $)

BMD ndex Nr	ITEM DESCRIPTION	BUDGET ESTIMATE, FY					DESIGN		CONSTRUCTION	
		PRIOR	FY 58	FY 59	FY 60	FY 61	START	COMP	AWARD	BOD
8K4.4.2	Control					2.500	06/60	10/60	11/60	01/62

LOCATION: (8K) OFFUTT AFB

SAMOS

ITEM CATEGORY: (4) CONTROL

DESCRIPTION AND UTILIZATION:

The Space Operations Control Center and Data Processing Facility will consist of a building having approximately 216,000 SF of floor space. This area is required to accomplish the following functions:

Control Mission Planning and System Command Control and Operation;
Orbital computations to correlate data from T/A stations and determine, correct, and predict ephemeris data;
Receive, evaluate and calibrate new reconnaissance data for rapid determination of vehicle equipment performance, and
The generation of suitable correction programs and commands to be relayed to the space vehicle, communications center, initial reconnaissance data processing and miscellaneous command administration.

The existing original Martin Aircraft Company Plant at Offutt AFB will be modified to satisfy the SOC/DPF requirement.

~~CONFIDENTIAL~~ [redacted]

Type Funds: P-300 MCP

BUDGET ESTIMATES

LOCATION VARIOUS

	FY 60	FY 61	TOTAL
SAMOS OPNL	.800		.800

(Figures Are In Millions of $)

BMD Index Nr	ITEM DESCRIPTION	BUDGET ESTIMATE, FY					DESIGN		CONSTRUCTIO	
		PRIOR	FY 58	FY 59	FY 60	FY 61	START	COMP.	AWARD	BOD
	Advance Project Planning				.800					

LPR-251 (Change No. 1, 15 Mar 60)

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LOCATION: VARIOUS

ITEM CATEGORY: ADVANCE PROJECT PLANNING

DESCRIPTION AND UTILIZATION:

This item will provide for the investigation of construction sites, Title I architect-engineer services for the development of design criteria and for final design and preparation of plans and specifications for SAMOS operational facilities.